

**Contingency Planning  
and Mechanical  
Products  
for  
Pipeline Emergency  
Repairs**







**Do you feel that you are prepared if something goes wrong in your system?**



## **Basic Rules in the Water Industry**

### **Rule #1**

**When something goes wrong,  
it will go wrong at the worst possible time.**



(WVIR Photo)



**Rule #2**  
**When something goes wrong,**  
**it will be the most expensive thing to repair.**



# Agenda

**Becoming Emergency-Ready**

**Mandatory Application  
Information**

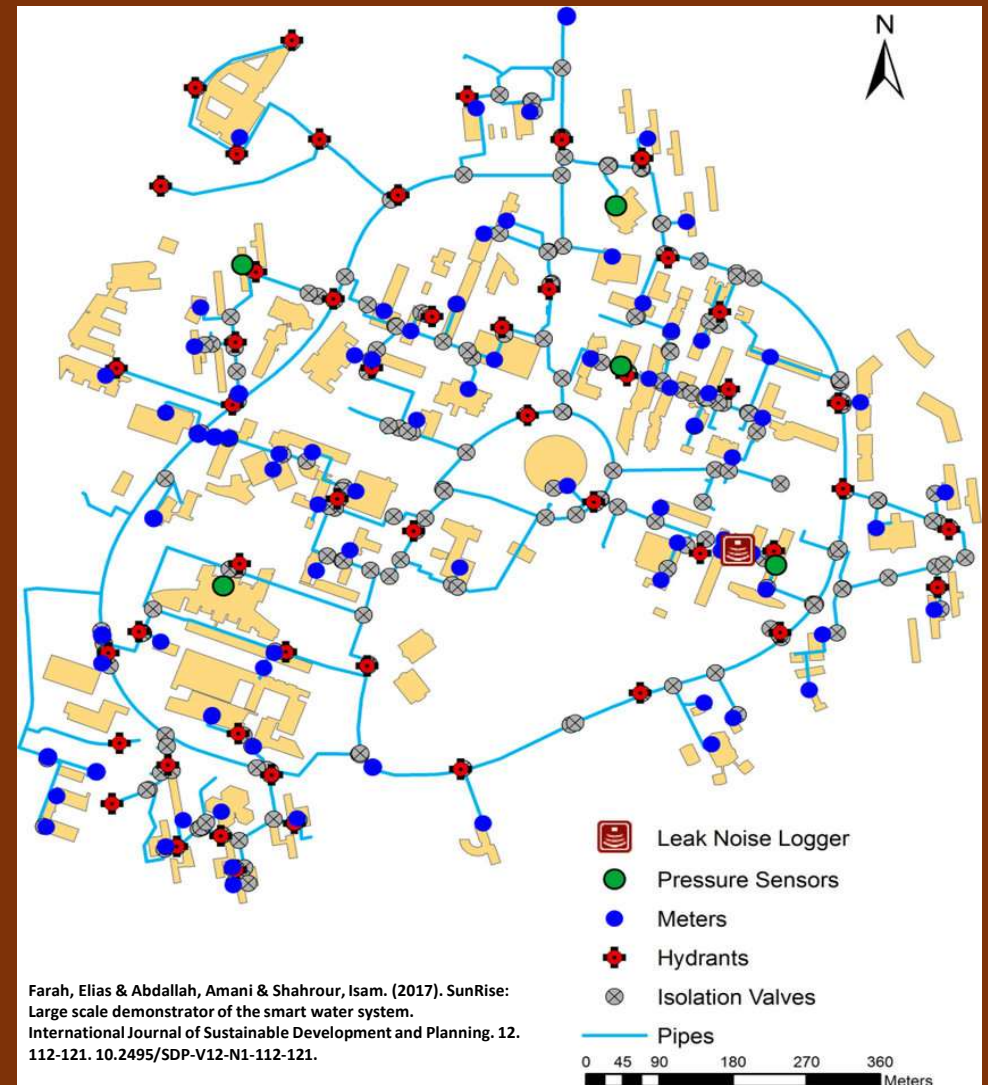
**Types of Damage**

**Mechanical Products**

**Installation Tips and Tricks**

**Case Studies**

# Becoming Emergency-Ready







**Advance  
Planning**

**Clear  
Communications**

**Good Record  
Keeping**

**Additional  
Logistics**

**Supply Chain  
Awareness**

**Specialty Design**

**Two-Step  
Solutions**

## Advance Planning



**Good Record  
Keeping**





**Specialty Design**



**Clear  
Communication**





## Supply Chain Awareness

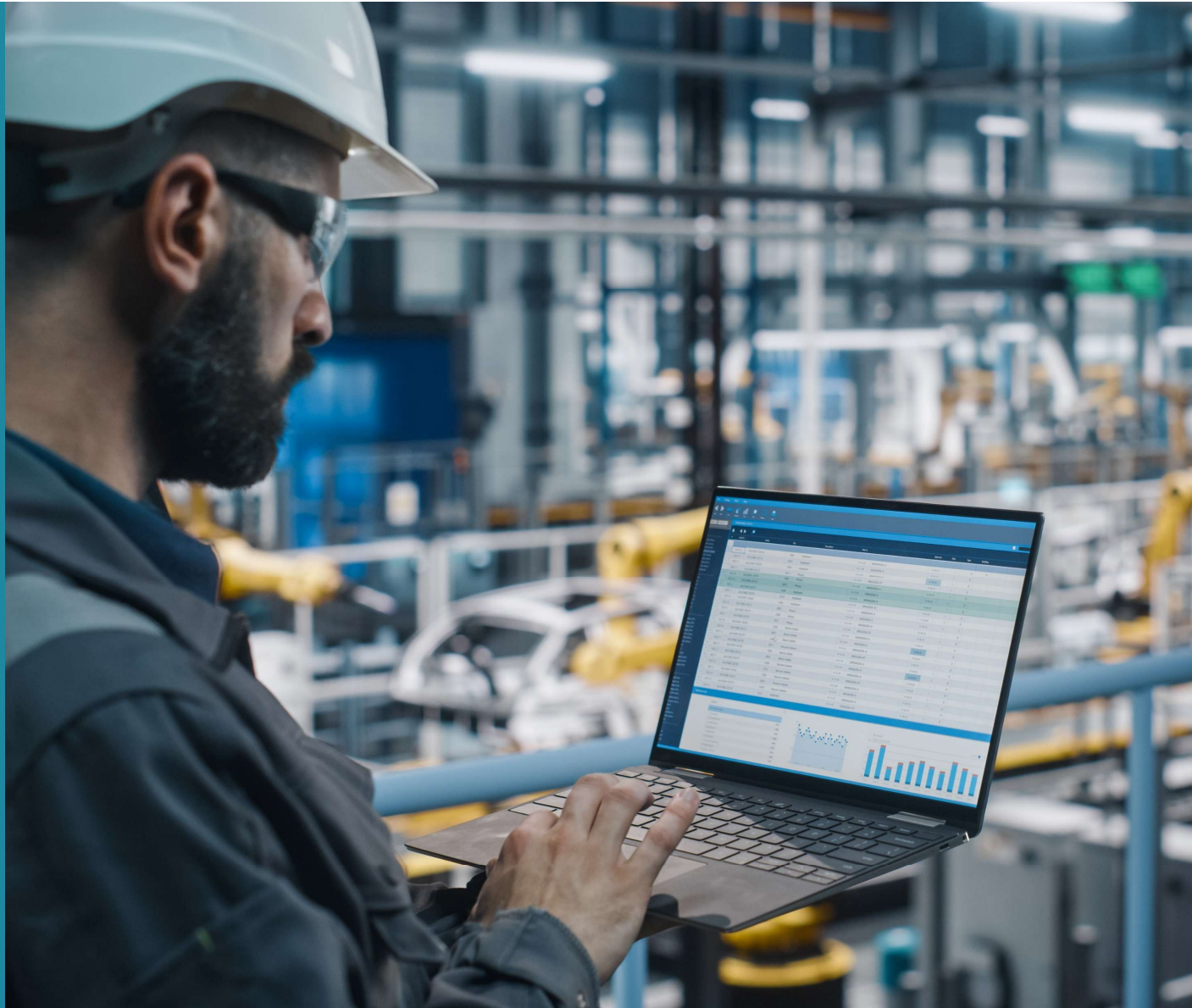




**Additional  
Logistics**



## Two-Step Solutions



# Mandatory Application Information



## GENERIC DATA SHEET

Phone: 1-800-527-8482 | Fax: 1-800-874-9524 | E-Mail:

ATTENTION:		JCM SALESPERSON:	
E-MAIL:		NUMBER OF PAGES:	
FAX:		REQUESTED SHIP DATE:	

SOLD TO:		SHIP TO:	
ORDERED FROM:			
ACCOUNT NUMBER:		TAG:	

ORDER DATE	CUSTOMER PO NUMBER	SHIP VIA	CALLING PARTY

QTY. ORDERED	DESCRIPTION	PRICE (EA.)	AMOUNT
ALL PRICES ARE NET (EA)		TOTAL =	

MANDATORY INFORMATION		OPTIONAL REQUIREMENTS	
Type of Pipe:		Special Range:	
Nom. Pipe Size:		Laying Length:	
OD of Pipe:		Flange Drilling	
Outlet Size:		Gasket Req.:	
Line Pressure:		Coating Req.:	
Line Content:		Bolt Req.:	

Outlets 14" and Larger		Generic Drawings	
Valve Mfg.:		Submitted:	
Cutter Size:		Approved:	

REMARKS:	Engineered Non-Returnable Item	QUOTE #:	
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Templates are recommended on all taps with an outlet size of 24" or larger, on all taps where the outlet is more than 60% of the pipe size, on all pipe where out of roundness is suspected, and on all high pressure taps where the fit of the sleeve is critical to the high-pressure performance.

CUSTOMER APPROVAL

DATE

Your order cannot be processed until we receive this signed data sheet back.



## Mandatory Information

Type and Nominal  
Pipe Size

Pipe Outside Diameter  
(OD)

Line Pressure

Line Content

**Type / Nominal  
Pipe Size / OD**

**Ductile  
Iron**

**Asbestos-  
Cement**

**Reinforced  
Concrete**

**Steel**

**Riveted  
Steel**

**PVC**

**Cast Iron**

**PIP**

**HDPE**

**FRP**

**Concrete  
Steel  
Cylinder**

## Optional Requirements

Special Range

Construction Materials

Laying Length

Coatings

Flange Drilling

Bolting Hardware

Gasket Requirements

Restraint Requirements

# Additional Considerations

**Size Limitations**



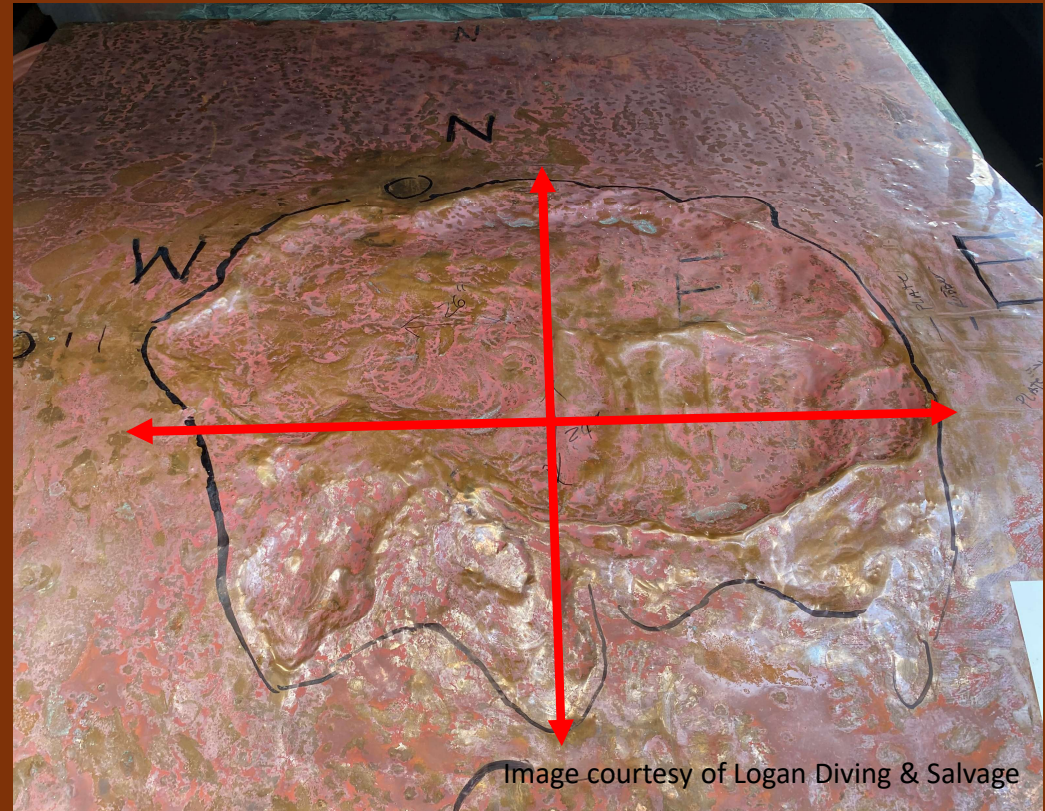
**Alignment Issues**




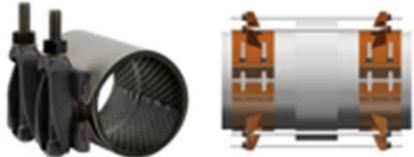








# Types of Pipe Damage









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# Types of Damage

Type of Pipe	Type of Damage	Possible Repair Fittings
Cast Iron Ductile Iron PVC Asbestos Cement Steel	Full or Partial Beam Break Circumferential 	
Cast Iron Ductile Iron PVC Asbestos Cement Steel	Split or Crack Longitudinal 	
Cast Iron Clay Ductile Iron PVC Asbestos Cement	Concrete HDPE Holes / Punctures / Corrosion 	
Cast Iron Ductile Iron PVC	Leaking Bell Spigot 	

# Types of Damage

Type of Pipe	Type of Damage	Possible Repair Fittings
PVC Steel	Leaking Thread / Solvent Weld Joints 	
Asbestos Cement	Leaking Asbestos Cement Coupling 	
Concrete Steel Cylinder Pipe	Holes / Punctures / Corrosion 	
Cast Iron Ductile Iron	Leaking Mech Joint / Cracked Bell 	

# Mechanical Bolt-On Products





## Universal Clamp Couplings

**Repair cracks, full breaks, and splits.**

**Functions as coupling – joining plain end pipe**



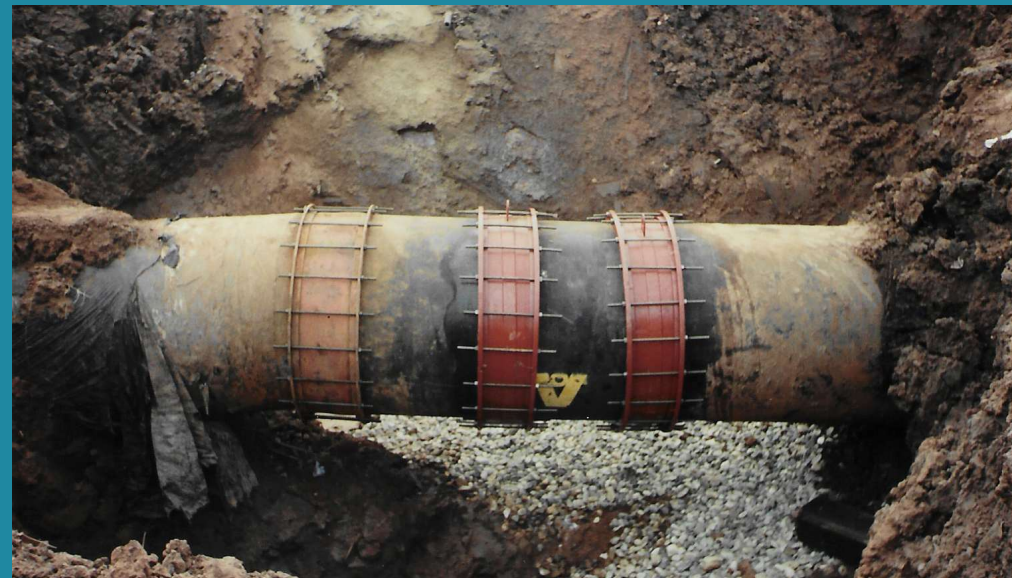
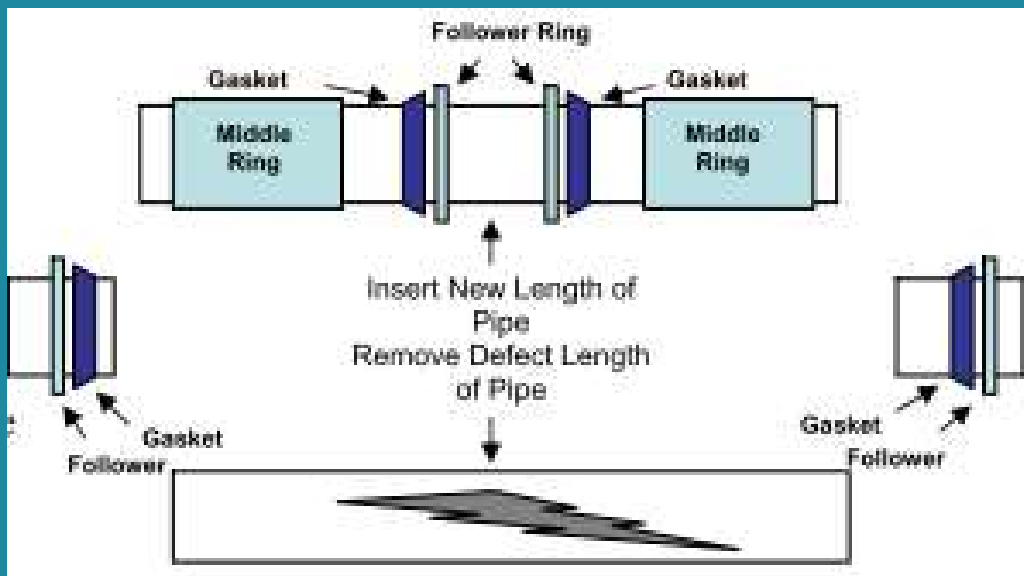
**One clamp can accommodate A/C, DI, CI, C-900/905, or IPS PVC in one nominal size.**







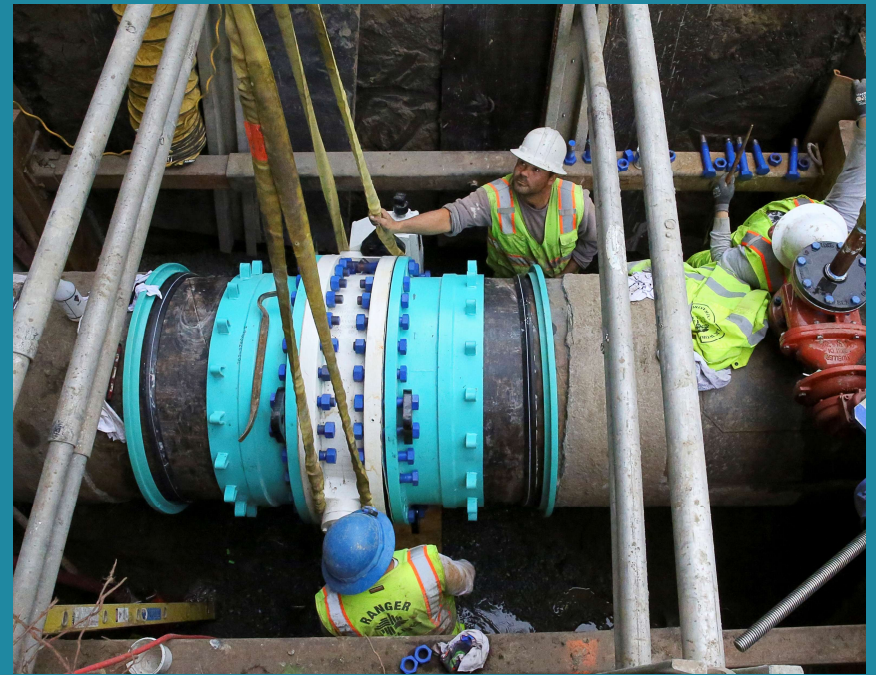
## Bolted Couplings







## Flange Coupling Adapters





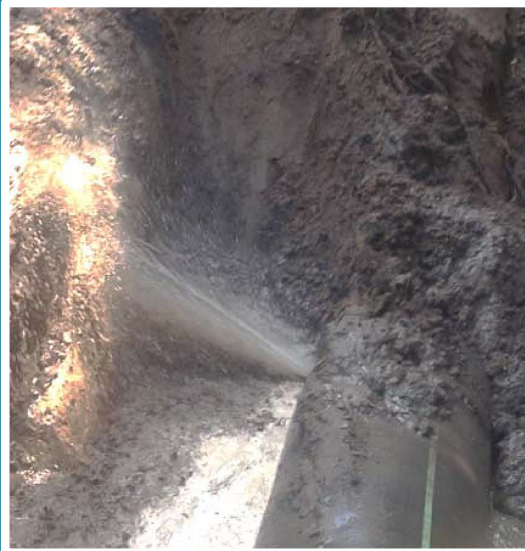
## Bell Joint Leak Clamps





# Repair vs Replacement

## System Repair



# Repair vs Replacement

## Pipeline Assessment



# Repair vs Replacement

## Pipeline Replacement







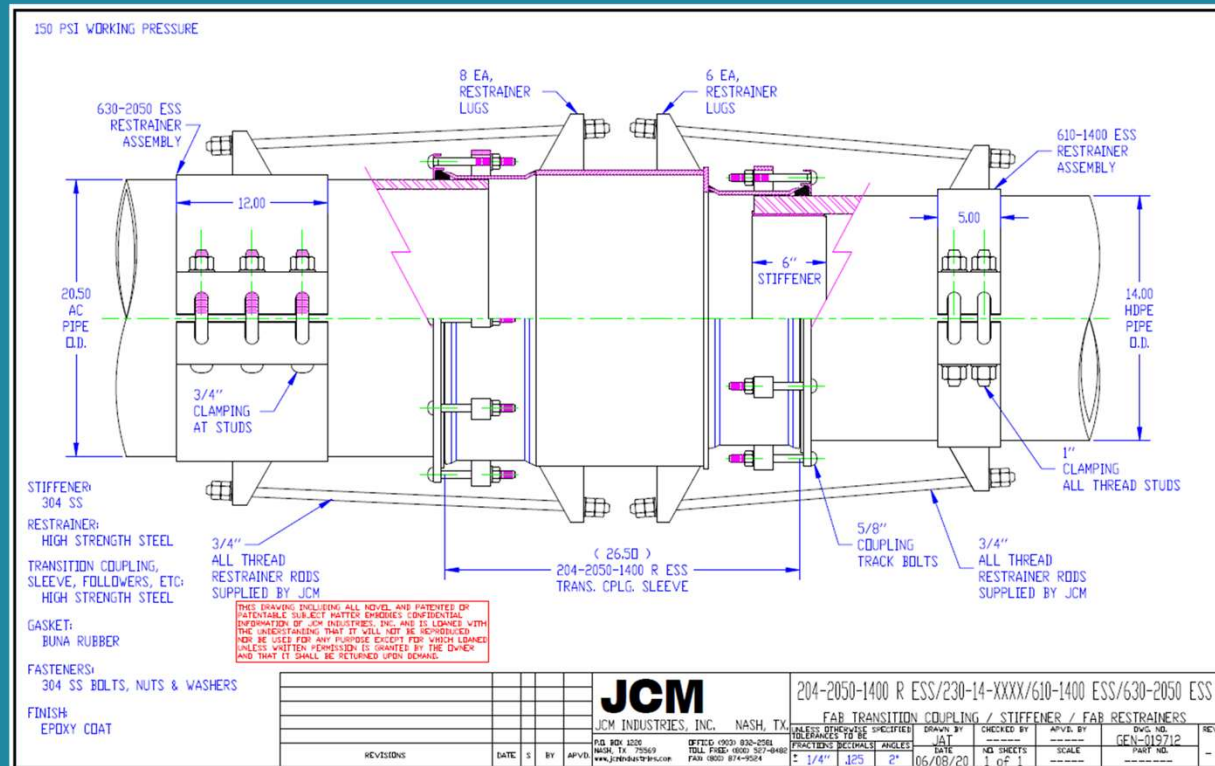


# Installation Tips and Lessons Learned

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# Review the Drawing



**Confirm the Shipment**





# Installation Instructions



## Installation Instructions

### Model 412 Fabricated Carbon Steel Tapping Sleeve Flanged Outlet

Read instructions before starting installation\*

Review of "Tricks of the Trade" on the reverse will assist with installation.

For purposes other than water, contact JCM Industries for application and product assistance.

1. Thoroughly clean pipe surface. Check the size and range of the tapping sleeve to verify correct size product. Check pipe surface where gasket will seat to make certain pipe is free of flaws, gouges and extreme irregularities.
2. Lubricate pipe and face of gasket with soap-water or gasket lubricating solution. Do not use grease or pipe lubricant. Oil based lubricants can prevent the gasket from adhering to pipe surface for water tight seal.
3. Position outlet half of body on pipe, making sure outlet is aligned with branch line to be connected. Never position so that rotation is required. Rotation can result in gasket dislocation.
4. Position back half of body and install bolts. (For fittings provided with stainless steel hardware, see reverse side.) NOTE: For fittings with hardware furnished with double washer sets, to assure ease of installation and obtain optimum bolt torque levels, install the double set of washers under each nut.

Tighten outside bolts first, working toward the center. Tighten bolts evenly. Alternate from one side of sleeve to the other. The gap between sleeve halves should be equal on both sides. JCM recommends the use of a torque wrench to ensure proper torque levels. Improper torque levels can result in leaking assembly or damage to the pipe wall.

Tighten bolts to the following torque levels:

Pipe sizes up through 12"	100 ft. lbs. of torque
Pipe sizes 14" & larger	125 ft. lbs. of torque
On Thin Wall, PVC (SDR21, 26), and Flexible Pipe	50 - 55 ft. lbs. minimum
HDPE SDR11, SDR17 - 3" - 12"	55 - 60 ft. lbs. minimum
HDPE SDR11, SDR17 - 14" and Larger	75 - 90 ft. lbs. minimum

For applications involving uncertain pipeline integrity, installer should take care to not tighten the fitting to the point of misshaping or damaging the pipe.

NOTE: For test and working pressure above 250 PSI bolts must be tightened to 125 - 150 ft. lbs. of torque.  
(Contact JCM for proper application)

5. Check inside of sleeve neck to make certain gasket is properly seated and not protruding where tapping cutter may damage it.
6. Install tapping valve. JCM recommends adherence to the AWWA M-44 Manual recommendations for proper valve installation, support and trenching. Improper support can result in undo stress.
7. Test assembly seals with water (per ANSI/AWWA C-223) using test port provided on sleeve or test connection on tapping machines. When testing the assembly against the pipe to pressures greater than the internal pressure of the host pipe, application should be treated as a new installation. Verify proper installation and operation.
8. When operating, protect tapping valve from corrosion.

Note:

Size  
the

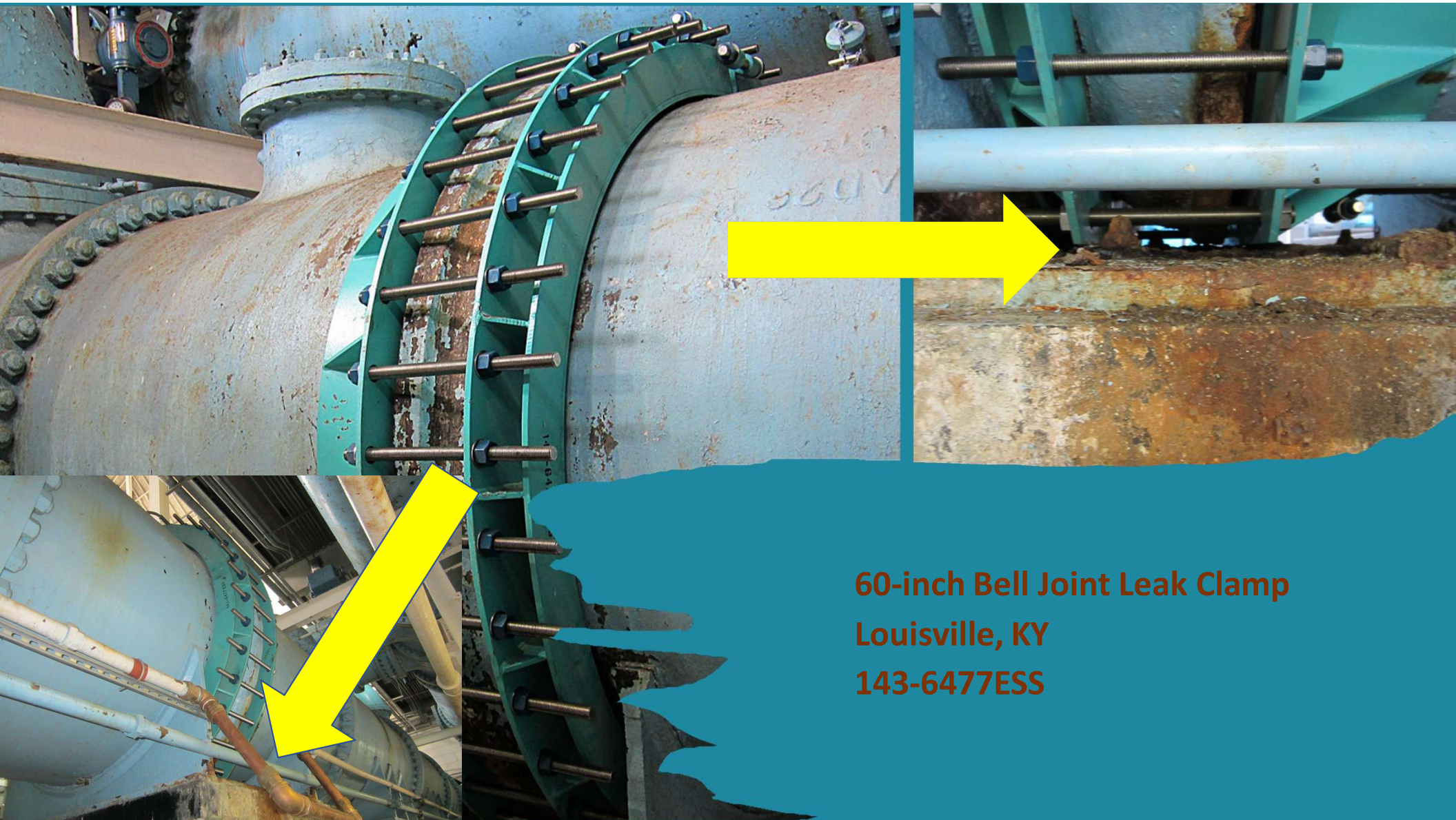
\*Ensure fitting is properly supported and secured to prevent movement (lateral, angular, axial) or pipe pullout from the bolt-on fitting. Inspection of the pipe integrity is the responsibility of the end user. JCM recommends the use of calibrated torque wrench. Failure to follow installation instructions will result in voided product warranty.

[https://www.jcmindustries.com/  
resources/installation-  
instructions/](https://www.jcmindustries.com/resources/installation-instructions/)



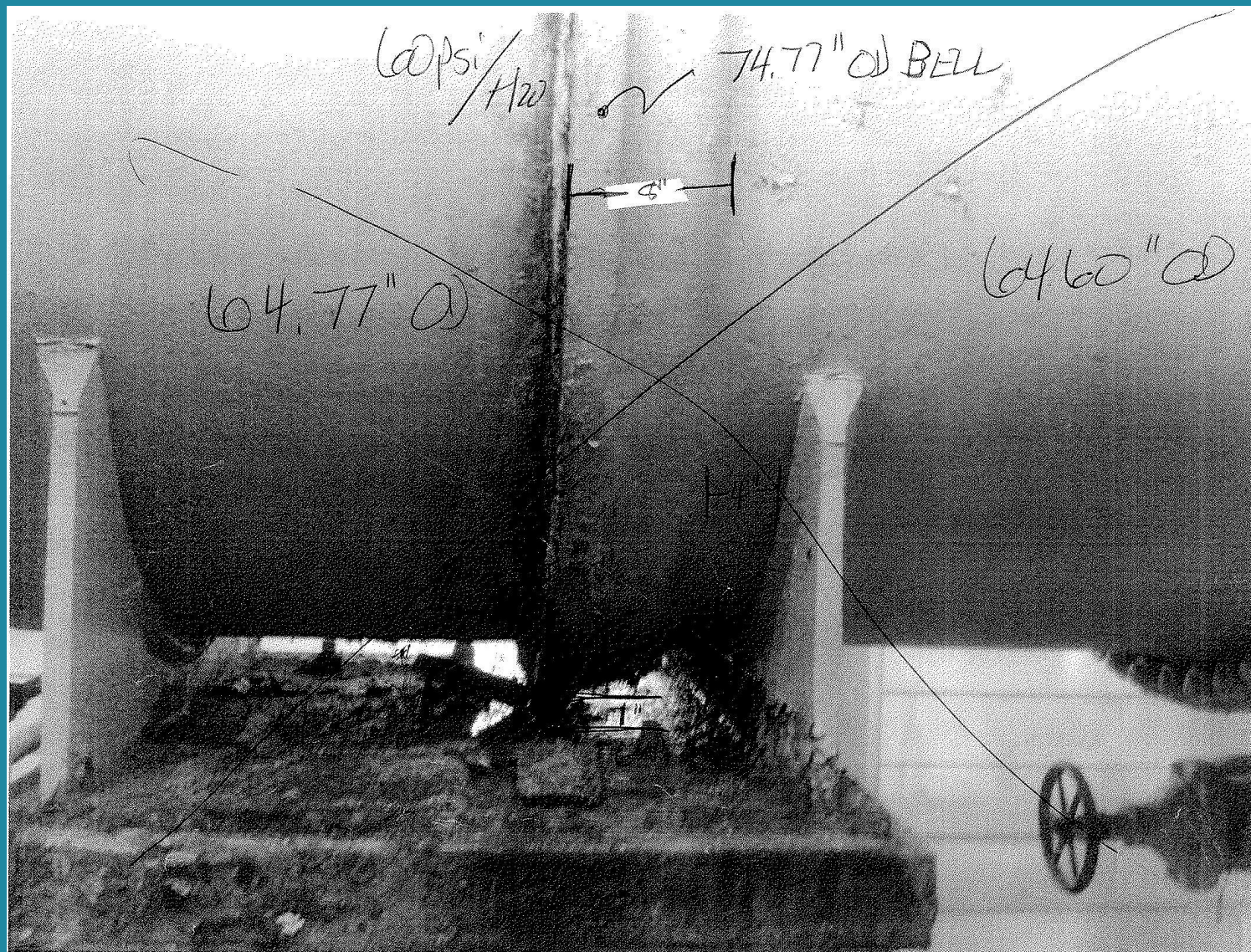
# Case Studies and Lessons Learned





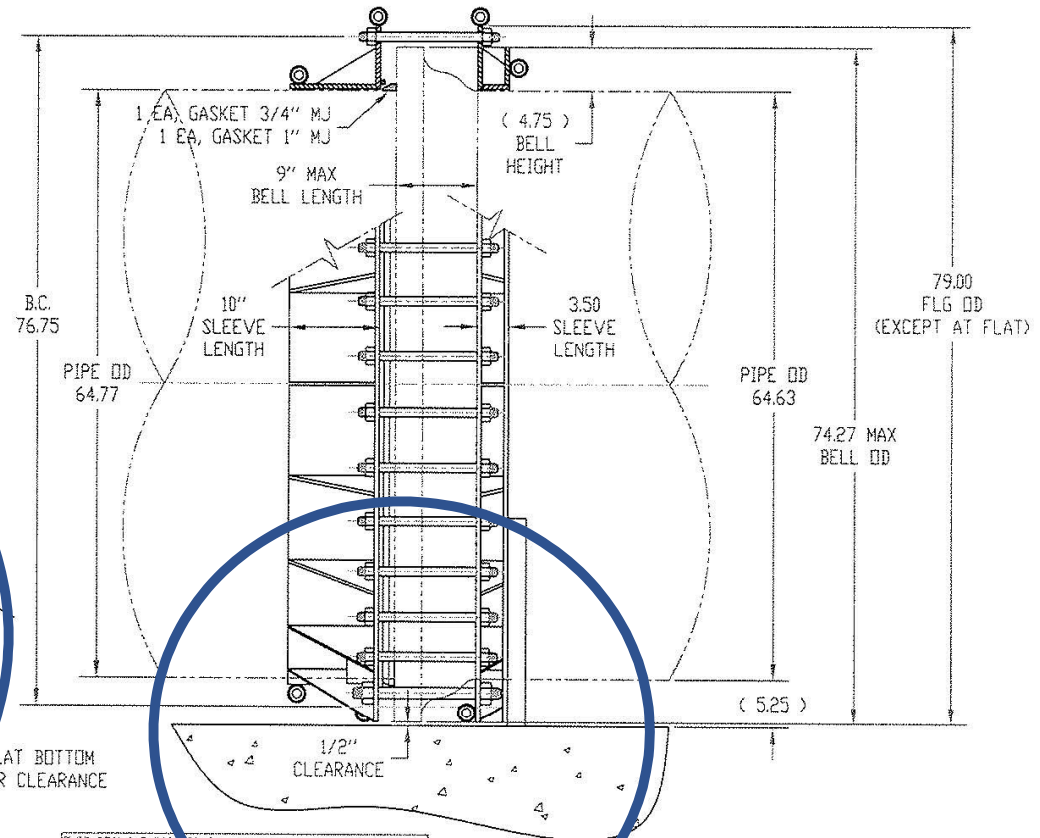
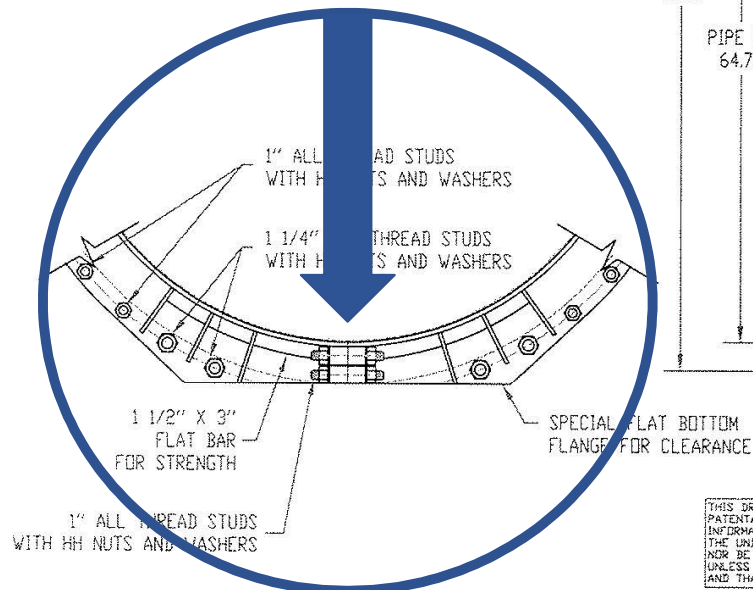
**60-inch Bell Joint Leak Clamp  
Louisville, KY  
143-6477ESS**







- 1) DESIGNED FOR 60 PSI (PENDING SEALING SURFACE)
- 2) ALL WELDS PER AWWA STDS
- 3) FINISH: EPOXY COAT
- 3) FASTENERS: 304 SS



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PATENTABLE SUBJECT MATTER EMBODIES CONFIDENTIAL  
INFORMATION OF JCM INDUSTRIES, INC. AND IS LOANED WITH  
THE UNDERSTANDING THAT IT WILL NOT BE REPRODUCED  
NOR BE USED FOR ANY PURPOSE EXCEPT FOR WHICH LOANED  
UNLESS WRITTEN PERMISSION IS GRANTED BY THE OWNER  
AND THAT IT SHALL BE RETURNED UPON DEMAND.

- FLANGES & SLEEVES TO BE ASTM A285 C OR EQUIVALENT
- GASKET TO BE BUNA

- PIPE O.D. = TO BE VERIFIED
- BELL O.D. = TO BE VERIFIED
- BELL LENGTH = TO BE VERIFIED

REVISIONS	DATE	S	BY	APV

# JCM

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143-6477 ESS - BJLC

FABRICATED BELL JOINT LEAK CLAMP - ASSEMBLY

UNLESS OTHERWISE SPECIFIED TOLERANCES TO BE:			DRAWN BY CAP		CHECKED BY	APVD. BY	DWG. NO. GEN-006491-B	REV.
FRACTIONS	DECIMALS	ANGLES	DATE 09/10/11	NO. SHEETS OF	SCALE		PART NO.	
+ 1/8"	.063	2°						

# JCM 114 Mechanical Joint Bell Repair Sleeve

**114-3830-57BR ESS (Mitered)**

**City of Ft. Meyers, Florida**

**Contractor: Wharton Smith Contractors**



Installation photos by  
Tom Moore, Mulcahy and  
Associates  
Fabrication photos by  
Jennifer Futrell, JCM Industries,  
Inc



JCM 114  
Mechanical  
Joint Bell  
Repair Sleeve

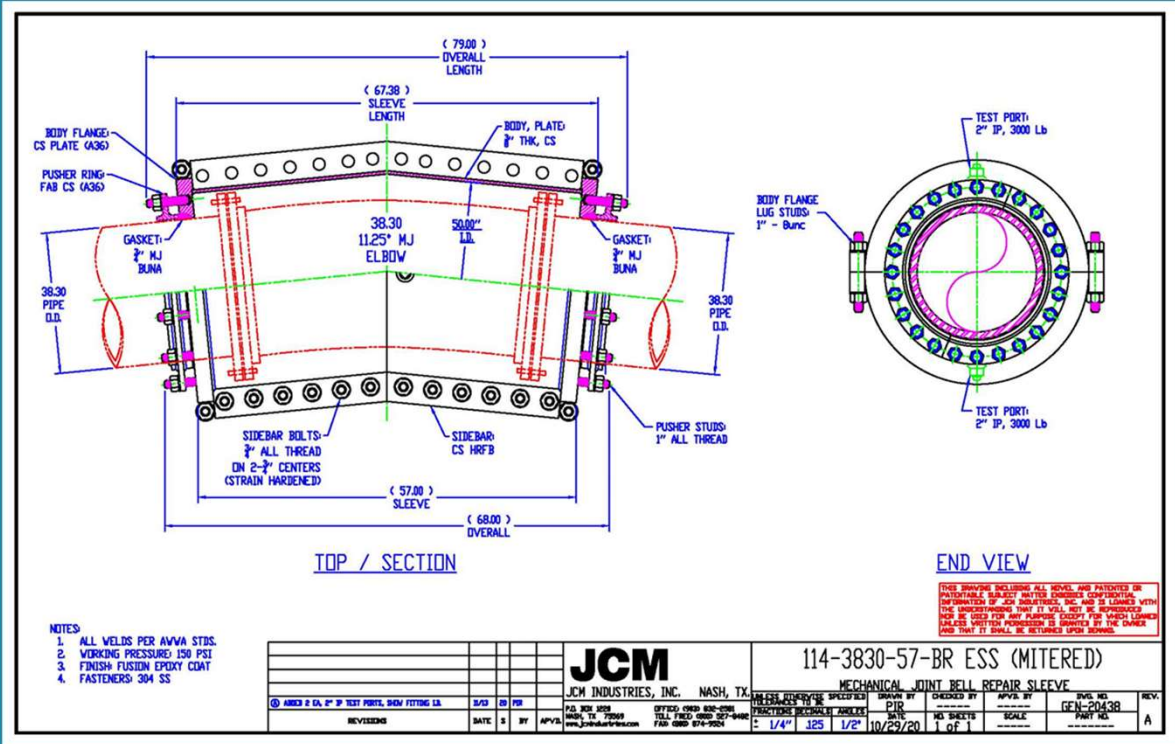




JCM 114  
Mechanical  
Joint Bell  
Repair Sleeve



# JCM 114 Mechanical Joint Bell Repair Sleeve





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Repair Sleeve





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Joint Bell  
Repair Sleeve






**To Sum it Up!**







**How many of you will have the same response to the question I asked at the beginning of this presentation next year ?**

### **Rule #3**

**There are just some things you will not be prepared for...**





**Mike Scholz**  
**Western Regional Sales Manager**  
**(916) 803-2888 Cell**  
**mscholz@jcmind.com**



The information included in this program is based on the most recent available in the piping industry. It is presented for the viewers use and education. Information provided should not considered formal recommendations for product application. For specific product recommendation, end user should provide application information, including pipe size, SDR number, working pressure, and specific information as to application (i.e. repair, connection, branching).

JCM Industries invites inquiries concerning the application of our products. Viewers may contact us at:

**800-527-8482 or 903-832-2581**  
**[www.jcmindustries.com](http://www.jcmindustries.com)**